

Claims

- [c1] A method for distributing and regulating the flow of coolant issuing from a water pump to a radiator that provides cooling to an engine, a bypass line and a heater comprising:
- receiving coolant issuing from a water pump at a valve;
 - selectively directing the received coolant from the valve to the radiator;
 - selectively directing received coolant from the valve to the bypass line; and
 - selectively directing received coolant from the valve to the heater, wherein the selective direction of coolant provides temperature regulation for the heater and the engine.
- [c2] A method for distributing and regulating the flow of coolant issuing from a water pump to a radiator, a bypass line and a heater comprising:
- receiving coolant issuing from a water pump in an inlet port for a valve housing; and
 - selectively directing the coolant from the inlet port through a valve rotor, wherein the valve rotor can provide at least one internal fluid passage within the valve

rotor, and then through at least one of a first outlet port in the valve housing configured to direct coolant to a radiator, a second outlet port in the valve housing configured to direct coolant to a bypass line and a third outlet port in the valve housing configured to direct coolant to a heater by moving the valve rotor into at least one preselected rotational orientation with a drive mechanism.

[c3] The method for distributing and regulating the flow of according to claim 2, further includes positioning the valve rotor in a preselected rotational orientation relative to a valve housing with a biasing mechanism.

[c4] The method for distributing and regulating the flow of according to claim 2, further includes preventing coolant from flowing into a gap located between the valve rotor and at least one of the inlet port, first outlet port, the second outlet port and the third outlet port with a flexible seal.

[c5] A method for distributing and regulating the flow of coolant issuing from a water pump to a radiator, a bypass line and a heater comprising:
receiving coolant issuing from a water pump in an inlet port for a valve housing;
selectively directing the coolant from the inlet port through a valve rotor, wherein the valve rotor can pro-

vide at least one internal fluid passage within the valve rotor, and then through at least one of a first outlet port in the valve housing configured to direct coolant to a radiator, a second outlet port in the valve housing configured to direct coolant to a bypass line and a third outlet port in the valve housing configured to direct coolant to a heater by moving the valve rotor into at least one preselected rotational orientation with a drive mechanism, wherein the inlet port and the first outlet port are located in a first plane and the second outlet port and the third outlet port are located in a second plane; and degassing of coolant from the valve housing with a fourth outlet port located on a bottom portion of the valve housing.

- [c6] A method for distributing and regulating the flow of coolant issuing from a water pump to a radiator, a bypass line and a heater comprising:
- receiving coolant issuing from a water pump in an inlet port for a valve housing;
 - selectively directing the coolant from the inlet port through a valve rotor, wherein the valve rotor can provide at least one internal fluid passage within the valve rotor, and then through at least one of a first outlet port in the valve housing configured to direct coolant to a radiator, a second outlet port in the valve housing config-

ured to direct coolant to a bypass line and a third outlet port in the valve housing configured to direct coolant to a heater by moving the valve rotor into at least one preselected rotational orientation with a drive mechanism that is controlled by processor; and receiving input from at least one sensor with the processor.

[c7] The method for distributing and regulating the flow of according to claim 6, further includes positioning the valve rotor in a preselected rotational orientation relative to a valve housing with a biasing mechanism.

[c8] A method for distributing and regulating the flow of coolant issuing from a water pump to a radiator, a bypass line and a heater comprising:
receiving coolant in an inlet port for a valve housing;
selectively directing the coolant from the inlet port through a valve rotor, wherein the valve rotor can provide at least one internal fluid passage within the valve rotor, and then through at least one of a first outlet port in the valve housing configured to direct coolant to a radiator, a second outlet port in the valve housing configured to direct coolant to a bypass line and a third outlet port in the valve housing configured to direct coolant to a heater by moving the valve rotor into at least one preselected rotational orientation with a drive mechanism

that is controlled by processor;
positioning the valve rotor in a preselected rotational orientation relative to the valve housing with a biasing mechanism;
receiving input from at least one sensor with the processor; and
pumping coolant into the inlet port for the valve housing with a fluid pump.